

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claim1, 2, and 4-29 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 2, 5, 6, 8, 9, 11, 13-15, 18, 23, and 25-27 are rejected under 35 U.S.C. 102(e) as being anticipated by Lindgren et al (U.S. Patent No. 6,980,545).

Regarding claims 1, 8, 13, 14 and 23, Lindgren et al (Lindgren) discloses a method and apparatus (FIG. 4) for routing data packets, comprising:

a network interface (14, a network medium access unit) to receive data packets;
a processor (a data packet processor 22) coupled with the network interface;
a memory (not shown, but inherently required for the processor) coupled with the processor to instruct the processor to load a routing data structure (a cache routing table 34) to store information indicating that the received data packet is to be dropped if the received data packet includes a predetermined non-forwarding destination address

comprising a destination address that is invalid for packets traveling between networks (col. 6, lines 22-45).

Regarding claims 2 and 9, Lindgren further discloses that the routing data structure comprises routing tables (col. 6, lines 26-31).

Regarding claim 5, 6, 11, 15, and 25-27, Lindgren further discloses that the stored information comprises a portion of address field (col. 6, lines 32-35) and a format for the destination address is defined by Internet Protocol (col. 4, lines 50-57).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 4, 10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindgren et al (U.S. Patent No. 6,980,545) in view of Sawada et al (US 2002/0016858).

Regarding claims 4 and 10, refer to the discussion for claims 1 and 8.

However, Lindgren et al (Lindgren) does not explicitly teach whether the routing table has a one bit of discard flag for a packet having the invalid destination address.

Sawada et al (Sawada) teaches a routing table having a discard flag and an associated flag (pointer) for a packet with a destination address to be dropped. Therefore, it would have been obvious to one having ordinary skill in the art to incorporate a one-bit discard flag into the routing table of Lindgren et al to drop the packets.

Lindgren and Sawada still does not teach a pointer to the flag.

It would have been obvious to one having ordinary skill in the art to incorporate a pointer for the table entry to speed a searching procedure associated with entries in the table.

Regarding claim 24, refer to the discussion for claims 10 and 23. Lindgren does not teach that the information comprise a pointer to a route entry to indicate a next-hop address. It would have been obvious to one having ordinary skill in the art to incorporate a pointer for a next-hop address into a routing table to search the entries in the table faster.

7. Claims 7, 12, 16-22, 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindgren et al (U.S. Patent No. 6,980,545).

Regarding claims 7, 12, and 16, Lindgren et al (Lindgren) does not explicitly teach that the routing table (FIG. 4) comprises a deprecated directed broadcast address. It would have been obvious to one having ordinary skill in the art to enter any kind of address into the routing table for the processor to implement for filtering destination addresses matching entries in the table.

Regarding claim 17, Lindgren et al does not teach that dropped packets are counted and storing a source address and the destination address for the dropped packet.

It is well known in the art to count dropped packets for monitoring a status of a packet network. It would have been obvious to count a number of dropped packets and to store a source address and a destination address for a dropped packet to collect statistics for evaluating the status of the network.

Regarding claim 18, refer to the discussion for claim 1. Lindgren does not explicitly teach that that a received packet is transmitted to a second network only if a match of the destination address in the cache routing table is not found. Lindgren further teaches that a routing processor (26 in FIG. 4) is processing routing of the received packet if a match of the destination address in the cache routing table is not found (col. 5, lines 53-67 and col. 6, lines 22-45). Therefore, it would have been obvious to one having ordinary skill in the art to transmit the received packet to a second network only if a match of the destination address in the cache routing table is not found and the routing processor has determined (col. 5, lines 63-67).

Regarding claim 19, refer to the discussion for claims 2 and 18.

Regarding claim 20, Lindgren does not explicitly teach that the processor checks the destination address four bit at a time.

It would have been obvious to one having ordinary skill in the art to check the destination address four bits at a time if no unexpected results can be seen from the use of four bits at a time.

Regarding claim 21, refer to the discussion for claims 11 and 20.

Regarding claim 22, refer to the discussion for claims 7 and 21.

Regarding claim 28, refer to the discussion for claims 7 and 27.

Regarding claim 29, refer to the discussion for claims 26 and 28.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SOON-DONG D. HYUN whose telephone number is (571)272-3121. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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